

**DIHYDROOUABAIN-LIKE FACTOR, ANTIBODIES, AND DIAGNOSTIC &
THERAPEUTIC METHODS**

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ABSTRACT

A novel mammalian dihydroouabain-like factor is disclosed which substantially fails to cross-react with mammalian ouabain-like factor (OLF) for binding to anti-OLF antibody, but cross-reacts with plant-related dihydroouabain (dho) for binding to anti-dho antibody, has maximal u.v. absorbance at 196 nm, has a non-peptidic, non-lipidic chemical structure and a fully hydrogenated lactone ring, has a concentration-dependent Na⁺,K⁺-ATPase (sodium pump) catalytic inhibitory activity which is 10-fold lower than OLF and 3-fold higher than plant-related dihydroouabain, and a high pressure liquid chromatography elution time about the same as dho. This factor is useful for therapy for congestive heart failure. An antibody and antibody fragments having affinity for mammalian Dh-OLF but not for OLF, and diagnostic and therapeutic methods comprise the antibody and means for quantifying the antibody and are useful for treating a condition caused by high level of OLF or Dh-OLF. Two isomers of plant-related dihydroouabain have been isolated. These compositions and methods are suitable for characterizing a variety of diseases and conditions associated with reduced sodium pump activity.

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